

# BULLETIN

## OF THE INSTITUTE OF METALS

VOLUME I

JUNE 1952

PART 10

### INSTITUTE NEWS

#### Membership Development

The Council hopes that, with the help of members, the Institute's membership may be very largely increased during the present year. The total active membership is now 3881; with a big effort, it should be possible to raise the number to 4500 by the end of the year.

As Professor Murphy said, as President, in his New-Year Message published in the January issue of the *Bulletin*, there is no better way in which the individual member can help the Institute at the present time than by bringing to the notice of non-members the services which the Institute offers. With the present range of the Institute's activities, there can be few concerned in any way with the non-ferrous metals who would not derive real benefit from membership, and the Institute will gain from the association in the largest numbers of those sharing its aims and problems. An important part of the costs of the Institute's services consists of expenses which run at about the same level whatever our numbers, and it is clearly advantageous to spread these overheads over the greatest possible number of subscribing members.

In connection with this campaign to increase membership, a card index has been prepared to show the representation in the membership roll of firms engaged in the non-ferrous metal and engineering industries. This index shows that a surprising number of firms—some of them well known—have at present no representatives at all; in the case of many others it is clear that there is much scope for increasing the membership both among the senior and junior members of the scientific and technical staffs. It is our aim that, in the first instance, every Chairman, Managing Director, and Chief Metallurgist of companies in the non-ferrous metal industries shall become a member of the Institute, the former if only to indicate his personal support of the Institute's work. We should, however, hope eventually to include in our roll all metallurgists and engineers who can benefit from the Institute's services.

Every member of the Institute—including those resident in the British Isles and in other countries—is invited to take some steps to increase the membership of the Institute in his or her own branch of industry, firm, works, or laboratory. The Secretary will be glad to provide members with information regarding the present representation in firms in the industry, and also to supply copies of a pamphlet describing the objects and services of the Institute and forms of application for membership. Lists of members in different countries

can be sent to members resident outside the British Isles who are willing to help in this campaign.

The new financial year of the Institute begins on 1 July, so that the present is a particularly good time at which to join. Membership can be arranged to start on that date.

#### Appeal to Industry for Regular Financial Support of the Institute's Work

The following additional contributions—other than renewals of donations—have been received in response to the Council's appeal to industry for regular financial support of the work of the Institute. A full list of contributions received up to 31 December 1951 has been published in the 1952, February issue of the *Journal* (pp. 346–347), and lists of other donations received during the present year are printed on pp. 39 (Feb.), 51 (March), and 65 (April) of the *Bulletin*.

The Council will be grateful for subscriptions (particularly subscriptions under covenant, on which the Institute—as a “charity”—may recover income tax) and donations from companies in the metallurgical and engineering industries which have not yet responded to the appeal.

If members are in doubt as to whether their own firms have subscribed, the Secretary will answer any enquiries.

Copies of the letter of appeal and printed form of covenant may be obtained on request.

#### A. Annual Donations Under Covenant, for Not Less Than 7 Years.

	Net			Gross After Re- covery of Tax		
	£	s.	d.	£	s.	d.
Manganese Bronze and Brass Co., Ltd., The. . . . .	52	10	0	100	0	0
Stone (J.) and Co. (Charlton), Ltd. . . . .	50	0	0	95	4	9
Brown (David) and Sons (Huddersfield), Ltd. . . . .	26	5	0	50	0	0
Hoyt Metal Company of Great Britain, Ltd., The . . . . .	5	0	0	9	10	6
Acorn Anodising Co., Ltd. . . . .	2	0	0	3	16	2

#### C. Other Donations (Some of Which May be Renewed).

Pyrotenax, Ltd. . . . .	52	10	0
Birmingham Battery and Metal Co., Ltd. . . . .	50	0	0
Esso Petroleum Co., Ltd. . . . .	25	0	0
Pressed Steel Co., Ltd. . . . .	25	0	0
Bawn (W. B.) and Co., Ltd. . . . .	5	5	0
Cheswick and Wright, Ltd. . . . .	5	5	0
Templewood Engineering Co., Ltd. . . . .	5	5	0
Premier Cooler and Engineering Co., Ltd., The. . . . .	2	2	0
Sheffield Testing Works, Ltd. . . . .	2	2	0



# **Autumn Meeting, Oxford, Monday-Friday, 15-19 September 1952**

Members are again reminded that the 1952 Autumn Meeting will be held in Oxford from Monday to Friday, 15-19 September, inclusive. Full particulars of the meeting will be published in the *Bulletin* as soon as possible, and the usual printed programme and reply form will shortly be circulated to members.

## **Election of Members**

The following 28 Ordinary Members, 2 Junior Members, and 8 Student Members were elected on 15 April 1952:

### *As Ordinary Members*

- ALLWOOD, Harold Frank, Works Chemist, James Booth and Co., Ltd., Nechells, Birmingham 7.
- BETTERIDGE, Walter, B.Sc., Ph.D., F.Inst.P., Development and Research Department Laboratory, The Mond Nickel Co., Ltd., Wiggin Street, Birmingham 16.
- BONSEY, T. H. Y., A.M.I.E.E., Sales Manager, Aluminium Wire and Cable Co., Ltd., 37 Thurloe Street, London, S.W.7.
- DEAN, Walter A., Ph.D., Chief Metallurgist, Cleveland Works, Aluminum Company of America, 2210 Harvard Avenue, Cleveland, O., U.S.A.
- ENGLISH, Ray H., B.S., Metallurgical Engineer, National Alloy Steel Division, Blaw-Knox Company, Blawnox, Pa., U.S.A.
- FLETCHER, Sidney John, Ph.D., A.R.I.C., Works Manager, Magnesium Elektron Ltd., Clifton Junction, nr. Manchester.
- FRANSSON, Artur Gotthard, Director of Materials Laboratory, Centrala Flygverkstaden, Malmslätt, Sweden.
- GOSLING, Joseph, G.I.Mech.E., Research Department, Metropolitan-Vickers Electrical Co., Ltd., Trafford Park, Manchester 17.
- GUINIER, Professor André Jean, Dr.-ès-Sc., Conservatoire des Arts et Métiers, 292 rue St. Martin, Paris 3, France.
- HARDWICK, William Roger, Assoc.Met., A.I.M., Chief Metallurgist, Arthur Balfour and Co., Ltd., Sheffield 3.
- HENSHAW, James Norman, M.I.Mech.E., Experimental Manager, Geo. Tucker Eyelet Co., Ltd., Walsall Road, Birmingham 22.
- HEWETT, Sidney Charles, Metallurgist, Johnson, Matthey and Co., Ltd., 78 Hatton Garden, London, E.C.1.
- HOPKINSON, Percy, Managing Director, British Furnaces, Ltd., Derby Road, Chesterfield.
- KÄLLBÄCK, Olle F., Principal, Tekniska Gymnasiet, Jönköping, Sweden.
- KERR, James Sinclair, M.Sc., F.I.M., F.Inst.F., Director, The Lancashire Steel Corporation Ltd., Irlam, nr. Manchester.
- KILPATRICK, Norman L., A.B., M.A., B.L.S., Librarian, The University Libraries, State University of Iowa, Iowa City, Iowa, U.S.A.
- LANDIS, Maurice N., B.S., Ph.B., La Salle Steel Company, P.O. Box 6800, Chicago 80, Ill., U.S.A.
- LINDBLOM, Yngve, Research Metallurgist, Metallografiska Institutet, Drottning Kristinas väg 48, Stockholm, Sweden.
- LUNDQUIST, Sven Anders, Dr.-Ing., Bolidens Gruv AB, Skelleftehamn, Sweden.

- MCARDLE, Gordon Dickinson, Metallurgist, Metallurgical Department, Imperial Chemical Industries, Ltd., Wilton Site, G.P.O. Box 54, Middlesbrough.
- MANUEL, Lloyd, Sales Manager, The Metallizing Equipment Co., Ltd., Chobham, nr. Woking, Surrey.
- MERCHANT, Joseph Harry, Chief Inspector, British Emulsifiers, Ltd.; Aerlec (Aluminium), Ltd.; and W. & A. Williamson and Co., Ltd., 16-24 Brewery Road, London, N.7.
- RILEY, Percy, Research Worker, J. H. Frankel (Aluminium), Ltd., Wednesbury, Staffs.
- STOCKS, William Blair, Director, W. Scott Buchanan and Co., Ltd., 228 St. Vincent Street, Glasgow, C.2.
- THATCHER, Herbert Edward, Assistant Secretary, Ministry of Supply, Castlewood House, 77/91 New Oxford Street, London, W.C.1.
- WALLACE, E., M.A., A.M.I.Mech.E., Development and Research Engineer, Dewrance and Co., Ltd., 165 Great Dover Street, London, S.E.1.
- WILLIAMS, Arthur Wynn, B.Sc., A.I.M., Production Metallurgist, James Booth and Co., Ltd., Nechells, Birmingham 7.
- WILLIAMS, Ernest Charles, M.Sc., A.Inst.P., Technical Officer, Imperial Chemical Industries, Ltd., Metals Division, Kynoch Works, Witton, Birmingham 6.

### *As Junior Members*

- HEAD, Alan Kenneth, B.A., B.Sc., Research Officer, Aeronautical Research Laboratories, Melbourne, Australia; attached H. H. Wills Physical Laboratory, University of Bristol, Royal Fort, Bristol 8.
- ZEIN, F. N., B.Sc., Department of Metallurgy, The University, Leeds 2.

### *As Student Members*

- CONACHER, John, Student of Metallurgy, Imperial Chemical Industries, Ltd., Metals Division, Witton, Birmingham 6.
- COPE, Robert George, Student of Metallurgy, Royal School of Mines, London, S.W.7.
- GILBEY, Deryk Oughton, Student of Metallurgy, Royal School of Mines, London, S.W.7.
- MORGAN, Donald John, Imperial Chemical Industries, Ltd., Metals Division, Waunarlwydd, nr. Swansea, Glam.
- ROSS, Eric, B.Sc., Research Metallurgist, Armament Research Establishment, Woolwich Arsenal, London, S.E.18.
- WANG, Yen-Ngen, M.S., Graduate Student, Metallurgical Engineering Department, Missouri School of Mines and Metallurgy, Rolla, Mo., U.S.A.
- WOLVERSON, Thomas, Metallurgical Chemist, Midlands Industrial Laboratories, Broad Lanes, Bilston, Staffs.
- YORKE, Terence, Student of Metallurgy, University of Manchester.

## **Binding Cases**

Members who intend to bind their *Journals* and *Metallurgical Abstracts* regularly are requested to place a standing order for binding cases with the Secretary, so as to enable an accurate estimate to be made of future requirements. Binding cases for 1945 and subsequent years are still available on request.



## COUNCIL 1952-53

### President :

**Smithells, G. J.**, M.C., D.Sc., F.I.M.; Director of Research, The British Aluminium Co., Ltd., Gerrards Cross, Bucks.

### Past-Presidents :

**Murphy, Professor A. J.**, M.Sc., F.I.M., Professor of Industrial Metallurgy, University of Birmingham.

**Smout, Sir Arthur, J.P.**, F.R.I.C., M.I.M.M., F.I.M.; Director, Imperial Chemical Industries, Ltd., London; Director, Murex, Ltd.; Director, Murex Welding Processes, Ltd.; Director, Pyrotenax, Ltd.

**Tasker, H. S.**, B.A.; Director, Goodlass Wall and Lead Industries, Ltd., London; Chairman, British Titan Products Co., Ltd., York.

### Vice-Presidents :

**Bailey, G. L.**, C.B.E., M.Sc., F.I.M.; Director, The British Non-Ferrous Metals Research Association, London.

**Dorey, S. F.**, C.B.E., D.Sc., F.R.S., M.I.Mech.E., M.I.C.E.; Chief Engineer Surveyor, Lloyd's Register of Shipping, London.

**Graham, A. B.**, Director, Henry Wiggin and Co., Ltd., Glasgow.

**Hunter, P. V.**, C.B.E., Hon. M.I.E.E.; Joint Deputy Chairman, British Insulated Callender's Cables, Ltd.; Chairman, B.I.C.C. Construction Co., Ltd.; Chairman, British Dielectric Research, Ltd.; Chairman, British Telecommunications Research, Ltd.; Chairman, Thos. Bolton and Sons, Ltd.; Chairman, Painter Bros., Ltd.; Chairman, Telegraph Condenser Co., Ltd.; Director, Connollys (Blackley), Ltd.; Director, Craigpark Electric Cable Co., Ltd.; Director, W. T. Glover and Co., Ltd.

**O'Neill, Professor H.**, D.Sc., M.Met., F.I.M.; Professor of Metallurgy, University College of Swansea.

**Thompson, Professor F. G.**, D.Met., M.Sc., F.I.M.; Professor of Metallurgy, University of Manchester. (*Senior Vice-President*).

### Honorary Treasurer :

**Jones, E. H.**, A.R.I.C., M.I.M.M., F.I.M.; Director and General Manager (Bristol), Capper Pass and Son, Ltd.

### Ordinary Members of Council :

**Baer, Alfred M.**, B.A.; Vice-Chairman, The Consolidated Zinc Corporation, Ltd.; Chairman, H. J. Enthoven and Sons, Ltd.; Director, Imperial Smelting Corporation, Ltd.; Director, The Zinc Corporation, Ltd.; Director, New Broken Hill Consolidated, Ltd.; Director, Fricker's Metal and Chemical Co., Ltd.

**Bolton, E. A.**, M.Sc., F.I.M.; Factory Manager, Elliott Works, Imperial Chemical Industries, Ltd., Metals Division, Birmingham.

**Bond-Williams, N. I.**, B.Sc., A.I.M.; Chairman and Managing Director, The Aston Chain and Hook Co., Ltd., Birmingham.

**Clarke, K. W.**, F.I.M.; Chief Metallurgist, The de Havilland Aircraft Co., Ltd., Central Laboratories, Edgware.

**Davy, G. H.**, M.I.Mech.E.; Works Director, Babcock and Wilcox, Ltd., Renfrew; Chairman, The Calorizing Corporation of Great Britain, Ltd.; Director, Stirling Boiler Co., Ltd.

**Inglis, N. P.**, Ph.D., M.Eng., M.I.Mech.E., F.I.M.; Research Director, Imperial Chemical Industries, Ltd., Metals Division, Birmingham.

**Jenkins, Ivor**, D.Sc., F.I.M.; Chief Metallurgist, Research Laboratories of The General Electric Co., Ltd., Wembley, Middlesex.

**Pfeil, L. B.**, O.B.E., D.Sc., A.R.S.M., F.R.S., F.I.M.; Director, The Mond Nickel Co., Ltd.; Director, Henry Wiggin and Co., Ltd.; Manager, Development and Research Department, The Mond Nickel Co., Ltd.

**Quarrell, Professor A. G.**, D.Sc., Ph.D., A.R.C.S., D.I.C., F.Inst.P., F.I.M.; Professor of Physical Metallurgy and Dean of the Faculty of Metallurgy, University of Sheffield.

**Ramsay, A. G.**, Ph.D., B.Sc., A.R.I.C.; Director, The Mond Nickel Co., Ltd., Swansea.

**Raynor, Professor G. V.**, D.Sc., D.Phil., M.A., A.I.M.; Professor of Metal Physics, University of Birmingham.

**Smith, Christopher**, F.I.M.; Works Superintendent, James Booth and Co., Ltd., Birmingham.

**Sutton, H.**, D.Sc., F.R.Ae.S., F.I.M.; Director, Materials Research and Development (Air), Ministry of Supply.

**Teed, Major P. Litherland**, A.R.S.M., F.R.Ae.S.; Deputy Chief of Research and Development, Vickers-Armstrongs, Ltd. (Aircraft Section), Weybridge, Surrey.

**Thomas, W. J.**, M.I.Mech.E., M.I.E.E.; Assistant Managing Director, The British Aluminium Co., Ltd.; Director, North British Aluminium Co., Ltd.; Director, Lochaber Power Co.; Director, Imperial Magnesium Corporation, Ltd.; Director, William Mills, Ltd.; Director, Alumina Co., Ltd.; Director, Gold Coast Bauxite Co., Ltd.; Director, Aluminium Corporation, Ltd.; Director, British and Colonial Bauxite Co., Ltd.; and Director, Alliance Aluminium Holdings, Ltd.

### Ex-officio : Chairmen of Local Sections

#### Birmingham

**Symonds, H. H.**, F.I.M., Foundry Manager, H. B. Barnard and Sons, Ltd., Dudley Port, Staffs.

#### London

**Ransley, G. E.**, Ph.D., M.Sc., F.I.M., Metallurgist, The British Aluminium Co., Ltd., Gerrards Cross, Bucks.

#### Oxford

**Finniston, H. M.**, Ph.D., B.Sc., A.R.T.C., Chief Metallurgist, Atomic Energy Research Establishment, Harwell.

#### Scottish

**Fowler, E. A.**, B.Sc., A.R.T.C., Chief Metallurgist and Chemist, Scotts' Shipbuilding and Engineering Co., Ltd., Greenock.

#### Sheffield

**Hallett, M. M.**, M.Sc., F.I.M., Chief Metallurgist, Sheep-bridge Engineering Co., Ltd., Chesterfield.

#### South Wales

**Spring, K. M.**, A.I.M., Assistant Technical Officer, Imperial Chemical Industries, Ltd., Metals Division, Landore, Swansea.



## PERSONAL NOTES

### Representatives of Other Bodies :

The following, in accordance with Article 32, represent Government departments and allied societies at Council meetings, for purposes of liaison :

#### The Admiralty

Grylls, Captain (E.) H. J. B., R.N.

#### The War Office

Joslin, Major-General S. W., C.B.E., M.A., M.I.Mech.E.

#### The Institution of Metallurgists

Colbeck, E. W., M.A., F.I.M.

Rotherham, L., M.Sc., F.I.M.

#### The Iron and Steel Institute

Leighton-Davies, Captain H., C.B.E., J.P.

### Honorary Corresponding Members to the Council

Australia : Professor H. K. Worner, D.Sc.

Belgium : H. P. A. Féron.

Canada : Professor B. Chalmers, Ph.D., D.Sc., and Professor G. Letendre, B.A., Ph.D.

France : Professor P. A. J. Chevenard and J. Matter.

India : N. P. Gandhi, M.A., B.Sc., A.R.S.M., D.I.C.

Italy : Leno Matteoli, Dott.Chim.

Netherlands : M. Hamburger.

South Africa : G. H. Stanley, D.Sc., A.R.S.M., and Professor L. Taverner, A.R.S.M., D.I.C.

Spain : Professor J. Orland, M.Sc., M.A., Ph.D., D.D.

Sweden : Professor Carl A. F. Benedicks, Fil.Dr., Dr.Ing.e.h., Dr.Techn.h.c., and Professor Axel Hultgren.

Switzerland : Professor A. von Zeerleder, Dr.-Ing.

United States of America : Professor R. F. Mehl, Ph.D., Hon. Eng.D., Hon.Sc.D.; Professor C. S. Smith, Sc.D.; and Dr. R. A. Wilkins.

### Binding of Plates in the Journal

The continually increasing costs of production of the Institute's publications have been a source of anxiety for some years.

To ensure that all reasonable economies in production are adopted, the Publication Committee recently appointed a Sub-Committee to consider and report on means of economy which have been suggested at various times but not so far adopted. As a result of its consideration of these suggestions, and of others made by its members, the Sub-Committee recommended (among other proposals of a less revolutionary character) that all plates illustrating papers or discussions be bound in one place in each issue of the *Journal* instead of separately within each paper, &c., to which they refer. The Sub-Committee estimated that substantial savings could be effected in this way.

While the Publication Committee was reluctant to do so, it resolved—in view of the savings in money that could be effected—that the proposal should be adopted for a trial period and possibly as a permanent practice if it were found that it involved no serious inconvenience in the use of the *Journal*.

Bearing in mind the need for economy, and that money saved by such a practice might be used to advantage in other ways, members are invited to express their views as to whether

the binding of plates in one place only in each issue of the *Journal* involves unreasonable inconvenience in its use.

### Publication of Short Notes in the Journal

Members will have noticed that blank left-hand pages occur from time to time in the *Journal*, and to prevent these being wasted the Council has decided that in future they shall be occupied by short original notes and by discussions on papers already published.

The Publication Committee is accordingly ready to consider notes of a length not exceeding 800 words, excluding the title and a very brief synopsis. Such notes will be judged by the same standards as are applied to ordinary papers submitted for the *Journal*, but, if acceptable, they will be given a high priority in publication and will appear with a minimum of delay. MSS. of notes should be addressed to the Editor of Publications.

## PERSONAL NOTES

MR. C. J. BIER has taken up an appointment with Sylvania Electric Products, Inc., Hicksville, N.Y., U.S.A.

MR. W. H. BOWMAN has been appointed a Joint Managing Director of T. I. Aluminium, Ltd., Birmingham.

MR. F. P. BULLEN has been awarded the degree of M.Sc. with First-Class Honours for a thesis entitled "Mechanism of Fatigue" which covered his research in the Baillieu Laboratory, University of Melbourne. Mr. Bullen has accepted a position at the Aeronautical Research Laboratories, Melbourne.

MR. J. H. CATLING has been appointed a Joint Managing Director of T. I. Aluminium, Ltd., Birmingham.

DR. G. E. CLAUSSEN is now at the Union Carbide and Carbon Research Laboratories, Inc., Niagara Falls, N.Y., U.S.A.

MR. J. E. ELLIOTT has left the Development and Research Department of The Mond Nickel Co., Ltd., Birmingham, to become Research Metallurgist to Bound Brook Bearings (G.B.), Ltd., Lichfield, Staffs.

MR. E. LL. EVANS has left the Metallurgy Division of the National Physical Laboratory to join the Corrosion Group of the Chemical Research Laboratory, Teddington.

DR. F. C. FRARY has been appointed Chairman of the newly formed U.S. Minerals and Metals Advisory Board.

DR. P. GREENFIELD has left Birmingham University and taken up an appointment at the Atomic Energy Research Establishment, Harwell, Berks.

DR. E. O. HALL has left the Cavendish Laboratory, Cambridge, and taken up a Lecturership in Physics at the University of Sheffield.

MR. R. D. HAMER, a Director of Aluminium Laboratories, Ltd., has been elected Vice-President of the Aluminium Development Association.

MR. R. G. HARPER has been appointed Technical Manager to Fry's Metal Foundries, Ltd., and The Eyre Smelting Co., Ltd., Merton Abbey, London, S.W.19.

MR. R. HEALEY is now engaged in the Plant Investigations Department, The National Smelting Co., Ltd., Avonmouth.



## NEWS OF LOCAL SECTIONS AND ASSOCIATED SOCIETIES

DR. P. HERASYMENKO is now at the Department of Chemical Engineering, New York University.

MR. N. F. HERBST has completed his B.Met.E. course in the University of Melbourne and is now employed at the laboratory of the Victorian Railways, Newport, Vic.

MR. H. G. HERRINGTON, Managing Director of High Duty Alloys, Ltd., has been elected President of the Aluminium Development Association for the year 1952-53.

MR. ALFRED H. HESSE has been appointed Vice-President and General Manager of Stemac, Inc., 5247 South Keeler Avenue, Chicago 32, Ill., manufacturers of electrical parts and assemblies.

MR. L. McN. HOGAN has graduated M.Sc. in the University of Melbourne, having been awarded Second-Class Honours for research into diffusion in gold-copper alloys, and work on the construction of certain X-ray equipment. He has recently accepted an appointment at the Defence Research Laboratories, Maribyrnong, Vic.

PROFESSOR EMILIO JIMENO has been elected a full member of the Spanish Real Academia de Ciencias Exactas, Fisicas y Naturales. He delivered a lecture to that body on 2 April in Madrid, on the subject "Science and Society."

MR. G. A. KENDRICK recently went to Australia, where he is engaged as a draughtsman with British General Electric Co. Pty., Ltd., Auburn, N.S.W.

MR. T. J. LEHANE has been appointed Deputy Manager of the Chemical and Mechanical Plant Department of Rees and Kirby, Ltd., Morriston, Swansea.

MR. B. M. LYNCH has graduated B.Sc. in the University of Melbourne and has been awarded a Cuming Major Scholarship to carry out research in the Chemistry School.

MR. M. C. NICKSON has been appointed Chief Metallurgist to G. A. Harvey and Co. (London), Ltd., London, S.E.7.

MR. W. A. POLLARD of Aluminium Laboratories, Ltd., has moved from Banbury, Oxon., to Kingston, Ont., Canada.

MR. E. L. ROBINSON has been appointed Chief Metallurgist to the Monotype Corporation, Ltd., Redhill, Surrey.

MR. J. W. SUITER has been awarded the degree of M.Sc. with First-Class Honours for a thesis entitled "Some Aspects of the Recovery of Metals under Stress" dealing with his work in the Baillieu Laboratory, University of Melbourne. He has been appointed a Research Officer in the Baillieu Laboratory.

MR. W. J. TEGART has graduated B.Sc. in the University of Melbourne. Mr. Tegart is a Technical Officer in the Division of Tribophysics, C.S.I.R.O., University of Melbourne.

PROFESSOR F. C. THOMPSON visited Austria during May under the auspices of the British Council and lectured at the Technische Hochschule, Graz, the Montanistische Hochschule, Leoben, and to the Chemisch-Physikalische Gesellschaft and Ingenieur- und Architekten-Verein in Vienna.

DR. C. F. TIPPER is working for several months in the Mechanics Division of the U.S. Naval Research Laboratory.

MR. C. WAINWRIGHT has returned to the National Physical Laboratory, Teddington, after serving for a time as metallurgical liaison officer at the United Kingdom Scientific Office, Washington, D.C., U.S.A.

MR. D. G. WALKER has graduated M.Sc. with First-Class Honours in the University of Melbourne; his thesis was on "Banding in Steel". He has been appointed a Senior Demonstrator in the Metallurgy Department at the University.

MR. J. R. WILES has left Coventry for South Africa, where his address will be c/o Wickman (S.A.) (Pty.), Ltd., Box 294, Brakpan, Transvaal.

MR. J. WINTON has left Leeds University and taken up an appointment in the Physical Metallurgy Section of the Associated Electrical Industries, Ltd., Research Laboratory, Aldermaston, Berks.

MR. D. K. WORN has taken up a post in the Development and Research Department Laboratories of The Mond Nickel Co., Ltd., Birmingham 16.

### Obituary

The Editor regrets to announce the death of:

MR. HERBERT EDWARD COHEN, Chairman of A. Cohen and Co. Ltd., Great Dover Street, London, S.E.1, at the age of 86. He was one of the pioneers of the non-ferrous ingot industry.

## LETTER TO THE EDITOR

### "Electrolytic Polishing and Bright Plating of Metals"

My attention has just been drawn to the review of my book, "Electrolytic Polishing and Bright Plating of Metals", which appeared in the February issue of your *Journal*.

The description of the book as a "Second Edition" is admittedly a misnomer. When my publishers intimated that they wished to satisfy the demand for the book by reprinting, I indicated that my limited time would not permit of my undertaking any revision or re-writing of the text, and that therefore it was to be clearly understood that the book would be issued as a reprint (with possibly some minor corrections only). Unfortunately, this injunction on my part was overlooked by the publishers, and I have accordingly asked them to overprint the description "second edition" by "second impression or reprint". This they have agreed to do.

145 Grosvenor Avenue,  
London, N.5.

S. WERNICK.

## NEWS OF LOCAL SECTIONS AND ASSOCIATED SOCIETIES

### Officers and Committees for Session 1952-53

#### Birmingham Local Section

Chairman : H. H. Symonds, F.I.M.

Vice-Chairman : E. H. Bucknall, M.Sc., F.I.M.

Hon. Treasurer : R. Chadwick, M.A., F.R.I.C., F.I.M.

Hon. Secretary : A. W. Matthews, L.I.M.

Past-Chairmen : B. Thomas, F.Inst.P., A.I.M.; E. A. Bolton, M.Sc., F.I.M.; R. Chadwick, M.A., F.R.I.C., F.I.M.

Ordinary Members : H. W. G. Hignett, B.Sc., F.R.I.C., F.I.M.; J. O. Hitchcock, B.Sc., F.I.M.; C. E. Homer, Ph.D., B.Sc., F.I.M.; P. Hutchinson; J. W. Jenkin, Ph.D., B.Sc., F.I.M.; S. S. Smith, M.Met., F.I.M.; E. A. Smith (representing Associates).



## JOINT ACTIVITIES

### London Local Section

*Chairman* : C. E. Ransley, Ph.D., M.Sc., F.I.M.

*Vice-Chairman* : J. C. Chaston, Ph.D., B.Sc., A.R.S.M., F.I.M.

*Past-Chairmen* : E. A. G. Liddiard, M.A., F.I.M.; W. F. Randall, B.Sc., A.R.S.M., M.I.E.E., F.I.M.; J. H. Watson, M.B.E., M.C., Ph.D., B.Sc., A.R.S.M., F.I.M.

*Hon. Treasurer* : J. D. Grogan, B.A.

*Hon. Secretary* : E. C. Rhodes, Ph.D., B.Sc., F.R.I.C., F.I.M.

*Ordinary Members* : R. G. Harper, M.Sc.; I. Jenkins, D.Sc., F.I.M.; J. R. Knight, B.Sc., A.I.M.; E. C. J. Marsh, B.Sc., F.R.I.C., F.I.M.; W. K. B. Marshall, B.Eng., A.I.M.; E. G. V. Newman, B.Sc., A.R.S.M., A.I.M.

### Oxford Local Section

*Chairman* : H. M. Finniston, B.Sc., Ph.D., A.R.T.C.

*Vice-Chairmen* : W. Hume-Rothery, O.B.E., F.R.S., D.Sc.; R. T. Parker, B.Sc., Ph.D., A.R.S.M.

*Hon. Treasurer* : J. C. Arrowsmith, M.Met.

*Hon. Secretary* : B. R. T. Frost, B.Sc., Ph.D.

*Ordinary Members* : P. Buckman; H. Chadwick, M.Sc.; G. Forrester, B.Sc.; R. H. Goddard (representing Associates); H. D. Mallon, B.Sc., A.R.T.C.; G. Murray, M.Sc., F.I.M.; J. Reynolds; D. Summers-Smith, B.Sc.; J. Thewlis, D.Sc., F.Inst.P. (representing Associates).

### Scottish Local Section

*Chairman* : E. A. Fowler, B.Sc., A.R.T.C.

*Vice-Chairman* : J. E. Chard, B.Sc., A.R.S.M., A.R.I.C., A.I.M.

*Hon. Treasurer* : N. J. MacLeod.

*Hon. Secretary* : Matthew Hay.

*Past-Chairmen* : John Arnott, F.R.I.C., F.I.M.; H. R. Beauchamp; A. Craig Macdonald, B.Sc., F.I.M., M.I.Mech.E., F.R.I.C.

*Ordinary Members* : George MacDonald, O.B.E., B.Sc.; W. A. Dunlop; John Erskine; J. Glover (representing Associates); J. Gorman (representing Associates); H. Harris, B.Sc., Ph.D., D.I.C., A.R.C.S.; F. Kasz, B.Sc.; H. B. Bell, B.Sc., A.R.T.C.

### Sheffield Local Section

*Chairman* : M. M. Hallett, M.Sc., F.I.M.

*Vice-Chairman* : W. R. Maddocks, Ph.D., B.Sc.

*Past-Chairmen* : F. Mason, M.I.E.E.; Major F. Orme, T.D., M.Met., A.R.I.C., F.I.M.; H. G. Dale, F.R.I.C.

*Hon. Secretary and Treasurer* : A. J. MacDougall, M.Met., F.I.M.

*Asst. Hon. Secretary* : B. C. Woodfine, B.Met.

*Ordinary Members* : A. Edwards, Ph.D., B.Sc., F.I.M.; T. B. Bowker; H. Gadsby, A.Met.; Professor A. G. Quarrell, D.Sc., Ph.D., A.R.C.S., F.Inst.P., F.I.M.; Z. Stokowicz, A.M.I.Mech.E., F.I.M.; The Vice-President, The University of Sheffield Metallurgical Society.

### South Wales Local Section

*Chairman* : K. M. Spring, A.I.M.

*Past-Chairmen* : E. A. Hontoir, B.Sc., A.I.M.; D. W. Hopkins, M.Sc., F.I.M.

*Hon. Secretary* : W. H. Grenfell.

*Hon. Treasurer* : R. G. L. Matthews, A.I.M.

*Ordinary Members* : P. W. A. Cunliffe (representing Junior Members); N. F. Eaton (representing Student Members); H. C. Hulme; C. J. C. Lewis (representing Associate Members); P. J. Liptrot, M.Eng., A.I.M.; Professor H. O'Neill, D.Sc., M.Met., F.I.M.; J. S. Walton.

## JOINT ACTIVITIES

### Copper Pass Awards

The Adjudicating Committee have resolved to make no Copper Pass awards for the year 1952, because, in their opinion, the quality and number of papers submitted, of the types for which awards are made, have failed to reach a suitable standard.

The Copper Pass Awards, which are made annually from a sum of £200 placed at the disposal of the Councils of the Institution of Mining and Metallurgy and of the Institute of Metals by Messrs. Copper Pass and Son, Ltd., Bristol, are as follows:

(a) £100 per annum for one or more awards to authors of papers on some aspect of non-ferrous extraction metallurgy, including assaying.

(b) £100 per annum for one or more awards to authors of papers relating to some process or plant used in the fabrication of non-ferrous metals.

The Adjudicating Committee will meet early in 1953 to consider all papers published by both societies during the year 1952. Papers on extraction metallurgy should be offered to the Institution of Mining and Metallurgy and papers on fabrication to the Institute of Metals. Authors need not be members of either society, and may be resident in any country. MSS. should preferably be submitted in duplicate to either the Secretary, Institution of Mining and Metallurgy, Salisbury House, Finsbury Circus, London, E.C.2, or the Secretary, The Institute of Metals, 4 Grosvenor Gardens, London, S.W.1, from whom further particulars may be obtained.

### Beilby Memorial Awards, 1951

The Administrators of the Sir George Beilby Memorial Fund, representing the Institute of Metals, the Royal Institute of Chemistry, and the Society of Chemical Industry have decided to make two awards, each of one hundred guineas, from the Fund for 1951. These awards have been made to:

KENNETH HENDERSON JACK, M.Sc., Ph.D., F.R.I.C., Lecturer in Inorganic Chemistry, King's College, Newcastle-on-Tyne; in recognition of his experimental contributions to the study of interstitial alloys, especially in the iron-nitrogen and iron-carbon-nitrogen systems.

WILLIAM ARNOLD WOOD, D.Sc., F.Inst.P., Senior Research Fellow (with the status of Associate Professor) in the Metallurgy Research Department of the University of Melbourne; in recognition of his experimental contributions to knowledge of the mechanism of deformation of metals, many of which have been published in the *Journal of the Institute of Metals*.

Awards from the Fund are made to British investigators in science as a mark of appreciation of distinguished work, particularly in such fields as fuel economy, chemical engineering, and metallurgy, in which Sir George Beilby's special interests lay. In general, the awards are not applicable to the more senior investigators, but are granted as an encouragement to relatively young men who have done independent work of exceptional merit over a period of years.

## NEWS OF KINDRED SOCIETIES

### Iron and Steel Institute

The Council of the Iron and Steel Institute has made the following awards of Medals and Prizes:

*Bessemer Medal*.—To MR. H. H. BURTON, C.B.E. (English Steel Corporation, Ltd.), for his distinguished services to the



steel industry and to metallurgy, with particular reference to the development of alloy steels and heavy forgings.

**Sir Robert Hadfield Medal.**—To DR. L. REEVE (Appleby-Frodingham Steel Co.) in recognition of his contributions to the science and practice of ferrous metallurgy and, in particular, his researches on the weldability of low-alloy steels.

**Williams Prize.**—Jointly to Mr. J. A. BOND (Appleby-Frodingham Steel Co.) and Mr. T. SANDERSON (Workington Iron and Steel Co.) for their paper on "Full-Scale Blast-Furnace Trials."

The following changes on the Council of the Institute are also announced: Mr. W. B. BAXTER O.B.E. (formerly a director of the United Steel Companies, Ltd.) to be an Hon. Vice-President; Sir CHARLES BRUCE-GARDENER, Bt. (Chairman of John Lysaght, Ltd.) to be a Vice-President; Mr. E. JULIAN PODE (Managing Director of The Steel Company of Wales, Ltd.) to become a Member of Council.

### Institute of British Foundrymen

The forty-ninth Annual Conference of the Institute of British Foundrymen will be held at Buxton from 10 to 13 June, inclusive. Dr. C. J. DADSWELL will be installed as President during the Conference, and the annual Edward Williams Lecture will be delivered on the morning of 11 June by Professor R. J. SARJANT, whose subject will be "Fuel and Metal". A full programme of technical meetings, visits, and social events has been arranged.

### Société Française de Métallurgie

The Annual Autumn Meeting of the Société Française de Métallurgie will be held from 20 to 25 October at the Maison de la Chimie, 28 bis Rue Saint-Dominique, Paris (7e).

The meeting will have two main themes: (1) Faults and fractures observed in metals during service, and (2) Methods of economizing metals in short supply, including the rational use of alloys and the substitution of different varieties or qualities of alloys or of different methods of fabrication for those previously employed, to ensure the best possible use of the scarce elements.

Some sessions will also be devoted to other papers of outstanding interest or originality. All the papers will appear *in extenso* in *Revue de Métallurgie*.

The technical sessions will begin on Monday morning, 20 October, and end at midday on Friday, 24 October. At the final session on Friday evening the Grand Medal of the Société (in honour of Henry Le Chatelier) and the Rist Prize will be presented.

On Saturday, 25 October, there will be a visit to the new laboratories of the Institut de Recherches de la Sidérurgie at Saint-Germain-en-Laye. Other visits and a banquet will be held during the week. Full details may be obtained from the Secretary, Société Française de Métallurgie, 25 Rue de Clichy, Paris (9e).

### Institute of Metal Finishing: Organic Finishing Group

The Electrodepositors' Technical Society has recently become an incorporated body under the title of the Institute of Metal Finishing. As such it will extend its activities into the field of organic finishing generally. The emphasis will be on the process side and technology of metal finishing rather than on the chemical side of organic finishing materials. The latter aspect is admirably covered by such bodies as the Oil and Colour Chemists Association and the various paint-trade bodies, but from the point of view of those engaged in

the practice of metal finishing using organic coatings, there has hitherto been no adequate forum for discussion and the dissemination of information.

As is well known, a considerable number of members of the Institute, indeed the majority, are already directly interested in organic finishing as they are concerned with practically all aspects of the finishing of metals and not only with electro-deposition. Many of the technical meetings held in the past have been devoted either wholly or in part to methods of metal finishing outside the confines of electrodeposition proper.

The Institute will continue its policy of being completely independent and free from commercial attachments. Its fundamental tasks are the publication of technical papers, the arrangement of meetings and conferences, and any other activities that may serve to spread knowledge and increase the efficiency of industrial practice.

At a preliminary meeting held recently between a number of individuals interested in organic finishing and members of the Council of the I.M.F., it was decided that the best way to implement these objectives would be to form an Organic Finishing Group open to all members of the Institute. To inaugurate this Group a Delegate Committee, as representative as possible of the industry, will be appointed in the first instance to organize a Conference in the Autumn of 1952. The latter will be partly a technical and partly a business meeting at which the election of the Committee and Officers of the new Group will take place. A further announcement giving details of the Autumn Meeting will be made in due course.

## OTHER NEWS

### Cathodic Protection Against Corrosion of Buried Metals

A standard form for describing cathodic protection installations to safeguard underground pipelines against corrosion in this country has been prepared by the British Iron and Steel Research Association's Sub-Committee on the Corrosion of Buried Metals. It is available from Mr. E. E. White, B.I.S.R.A., 140 Battersea Park Road, London, S.W.11, and is to be returned when completed to the Chemical Research Laboratory of the D.S.I.R., Teddington, Middlesex.

Replacement of corroded underground pipes is estimated to cost this country £50,000,000 per year. Cathodic methods of protection, as used, for example, on the £2,000,000 oil pipeline from Finnart to Grangemouth in Scotland, show promise of becoming an economic and effective way of cutting this bill. Application of the method, however, will only be effective if the fullest possible information on the subject is examined, correlated, and made available to all interested bodies. The most convenient body to do this is the B.I.S.R.A. Sub-Committee (Chairman, Mr. L. C. Whiskin of the Metropolitan Water Board) which has been entrusted by the Minister of Health with the co-ordination of research on this subject.

The form, which can be treated as confidential if desired, is in the form of a questionnaire on the protected pipeline and the site in which it is laid, the details of any cathodic protection and the conditions before and after its installation, with details of corrosion failures, repairs, &c.

It is hoped that the form will be widely used to enable the Sub-Committee to obtain a clear picture of the extent and effectiveness of cathodic protection of buried pipelines in this country.



# APPOINTMENTS VACANT

**A COMPANY** in South London engaged in the production of specialized non-ferrous metal products requires a man to take charge under the Works Manager of its basic production department, which includes melting, rolling, and wire drawing. Metallurgical training sufficient to cover the technical aspects of the job is desirable, as well as knowledge of the standard types of machinery employed. The job involves full control of labour, &c. Write giving full details, including salary required, to Technical Manager, Box No. 336, Institute of Metals, 4 Grosvenor Gardens, London, S.W.1.

**A VACANCY** exists for a Senior Development Metallurgist in a large precision engineering organization in the Midlands for work on the development and application of non-ferrous metals. In the first instance applications should be made in writing, giving full particulars of previous experience, age, and salary required, also date when the applicant would be free to take up the post. Box No. 337, Institute of Metals, 4 Grosvenor Gardens, London, S.W.1.

**CHEMIST**, recently graduated, wanted for work in connection with the control and development of works' processes, by manufacturers of aluminium sheet, extrusions, and paste (paint pigment). The chemist's work would be largely practical, but would include laboratory work in both organic and inorganic chemistry. Box No. 332, Institute of Metals, 4 Grosvenor Gardens, London, S.W.1.

**FULMER RESEARCH INSTITUTE** has the following staff vacancies:

**METALLURGIST or ELECTROCHEMIST** to take charge of Corrosion and Electrodeposition Section. Salary up to £1,000 p.a.

**X-RAY CRYSTALLOGRAPHER** to study constitution of alloys. Salary £500-£750 p.a.

**PHYSICAL CHEMISTS** for work in organic chemistry. Salary £500-£800 p.a.

Applicants may be of either sex, and should have a first- or second-class honours degree, preferably with some research experience. Salaries within specified ranges are based on qualifications and experience. Apply in writing to the Fulmer Research Institute, Stoke Poges, Bucks.

**METALLURGIST** or Metallurgical Chemist for prominent company engaged in complete non-ferrous fabrication, principally in the packaging field. Applicant should have some recognized training. Post involves varied laboratory work in a small but growing Research and Development Dept.—production control and applied research. Pension scheme and other facilities. North London area. Salary £450-£500 p.a. to commence. Box No. 335, Institute of Metals, 4 Grosvenor Gardens, London, S.W.1.

**METALLURGIST** required by Marconi's Wireless Telegraph Company, Ltd., Chelmsford, to lead a section of the Works Laboratory. Sound background in ferrous and non-ferrous metallurgy, with several years' experience in engineering industry. Technical education should not be less than Higher National Certificate standard. Commencing salary £450-£550, according to qualifications. Superannuation, five-day week, &c. Please apply in confidence (quoting reference 814B) to Central Personnel Services, English Electric Company, Ltd., 24/30, Gillingham Street, London, S.W.1.

**METALLURGIST** required by Pressed Steel Co., Ltd., Cowley, Oxford, to assist in the control of materials and processes used in the mass production of a variety of products. Opportunity will be given for individual research. Applicants should possess first- or second-class honours degree in metallurgy. Permanent appointment. Please write, furnishing fullest details of training and experience, also stating age and salary required, to the Personnel Manager.

**SINTERED PRODUCTS, LTD.**, Hamilton Road, Sutton-in-Ashfield, have a vacancy in their Development Laboratory. Experience in physical or powder metallurgy desirable. Permanent, progressive post. Apply in first instance to Local Ministry of Labour Office.

**SPECTROGRAPHER.** Men or Women of degree standard who want to make, or have made, spectroscopy their special field of study, are invited to apply for the post of Spectrographer to take charge, under the Chief Analyst, of all the Company's spectrographic work on light alloys and inorganic chemicals. The duties include the development of wider applications of spectrography as well as the supervision of spectrographic service to research groups and production departments. Applications, stating salary required and full details of career, to be addressed to: Secretary, Magnesium Elektron, Ltd., Clifton Junction, Manchester.

**WORKING SUPERVISOR** for 125-KVA. H.F. induction hardening plant for continuous work of highest priority. Metallurgical and electrical knowledge essential. Able to maintain and expand plant. Aldis Brothers, Ltd., Sarehole Road, Hall Green, Birmingham.

## CITY OF COVENTRY EDUCATION COMMITTEE

### Coventry Technical College

*Principal:* H. V. FIELD, B.Sc., Wh.Sch., M.I.E.E.

Applications are invited from suitably qualified persons for appointment as full-time teacher of **METALLURGY**. Candidates should have an Honours Degree in Metallurgy or equivalent qualifications. Industrial and teaching experience are desirable.

Salary in accordance with Burnham Technical Scale for Assistants Grade B.

Duties to commence on 1 September 1952, or as soon as possible after that date.

Application forms and further particulars obtainable from the undersigned, to whom completed forms should be returned *within 14 days* of the appearance of this advertisement.

W. L. CHINN, M.A.,  
Director of Education.

Council House,  
Coventry.

## UNIVERSITY OF BIRMINGHAM

### Department of Industrial Metallurgy

#### JOSEPH LUCAS FELLOWSHIP IN ELECTROMETALLURGY

Applications are invited for the above Fellowship for research in the field of Electrometallurgy. The salary attached to the Fellowship will be £600-£850 p.a. Candidates should have appropriate qualifications and experience in metallurgy, physics, or chemistry.

Applications should be submitted as soon as possible to: The Registrar, The University, Edgbaston, Birmingham, 15.

## UNIVERSITY OF BIRMINGHAM

### Department of Industrial Metallurgy

Applications are invited for the position of Senior Investigator for a programme of research on the Joining of Metals. The programme will include a study of the argon arc welding of a variety of metals and the brazing of light metals. The salary range is: £500-£750 p.a., the initial salary depending upon experience and qualifications. Candidates should possess a degree in metallurgy, physics, or engineering. Applications should be submitted as soon as possible to: The Registrar, The University, Edgbaston, Birmingham, 15.

## UNIVERSITY OF BIRMINGHAM

### Department of Industrial Metallurgy

Applications are invited for the positions of Senior Investigators and Research Assistants for research on the production and properties of clad metals. The salary ranges are: Senior Investigator £450-£700 p.a.; Research Assistant £250-£380 p.a. Candidates should possess a degree in metallurgy, physics, or engineering or equivalent qualification.

Applications should be submitted as soon as possible to: The Registrar, The University, Edgbaston, Birmingham, 15.